

DISTRIBUTED COPIES OF CONFIGURATION INFORMATION
USING TOKEN RING

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5

ABSTRACT OF THE DISCLOSURE

A system for synchronizing configuration information in a plurality of data processing devices using a common system interconnect bus. The present invention provides a method and apparatus for enforcing automatic updates to the configuration registers in various agents in the data processing system. The interface agent are not required to have target/response logic to respond to internal and external configuration accesses. In and embodiment of the present invention, a node controller, which may comprise a configuration block, is operably connected to a system interconnect bus and a switch. A plurality of interface agents are connected to the switch, with each of the interface agents comprising a configuration space register, a configuration space shadow register and a control and status register (CSR). A token ring connected to the node controller is operable to transmit data from the node controller to a plurality of interface agents connected to the token ring, thereby providing a system for updating the various configuration registers in each of the agents. A transaction from an interface agent is transferred to the node controller which transfers the transaction onto the system interconnect bus. The transaction on the system interconnected bus is detected by the configuration block of the node controller and is then transmitted on the token ring to each of the agents connected thereto. The information transmitted on the token ring is used to update the information in the configuration space registers and configuration space shadow registers of each of the agents connected to the token ring. In an embodiment of the invention the interface agents are configured in accordance with the Hypertransport protocol. In this embodiment, the configuration comprises a HT configuration space register and the configuration space shadow register comprise a HT configuration space shadow register.